

4 RELATIONSHIP BETWEEN THE REGIONAL
NEUROSURGICAL SOCIETIES AND THE
WORLD FEDERATION OF
NEUROSURGICAL SOCIETIES

H. AUGUST VAN ALPHEN

EDWARD R. LAWS

KINTOMO TAKAKURA

JORGE MENDEZ

SAYED EL GINDI

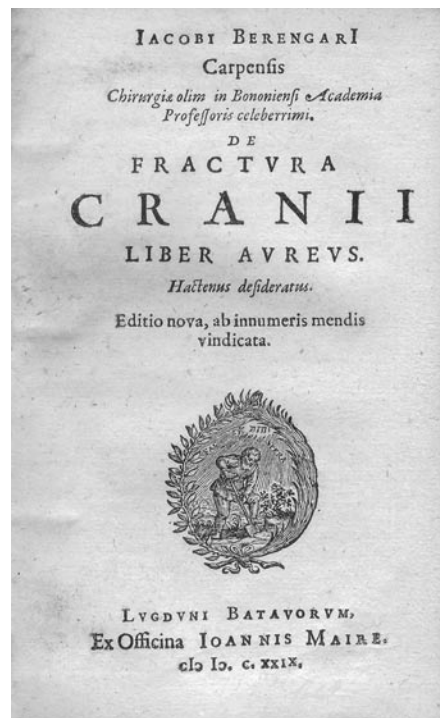
DONALD SIMPSON-NOEL DAN

4.1 EUROPE AND THE WORLD FEDERATION OF NEUROSURGICAL SOCIETIES

H. AUGUST VAN ALPHEN

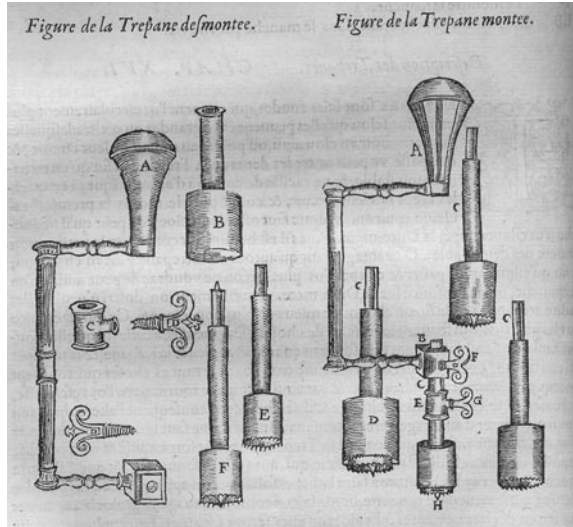
History

In Europe, the operative management of skull injuries, a dire necessity particularly in wartime, has been applied from time immemorial. As early as the 4th century BC, Hippocrates (around 460-375 BC) of Kos, Greece wrote an outstanding scientific treatise entitled 'Peri ton tes kephales tromaton', or in Latin 'De capitis vulneribus', in which the surgery of the head was described (14). Since the early sixteenth century, this management has been practised fairly systematically. In Italy, Giacomo Berengario da Carpi (ca. 1470-1530) was an expert on head trauma. He wrote the first separate book on head injuries in 1518, in which he described the causes of trauma and different types of cranial fracture. He drew attention to the relationship between location and clini-

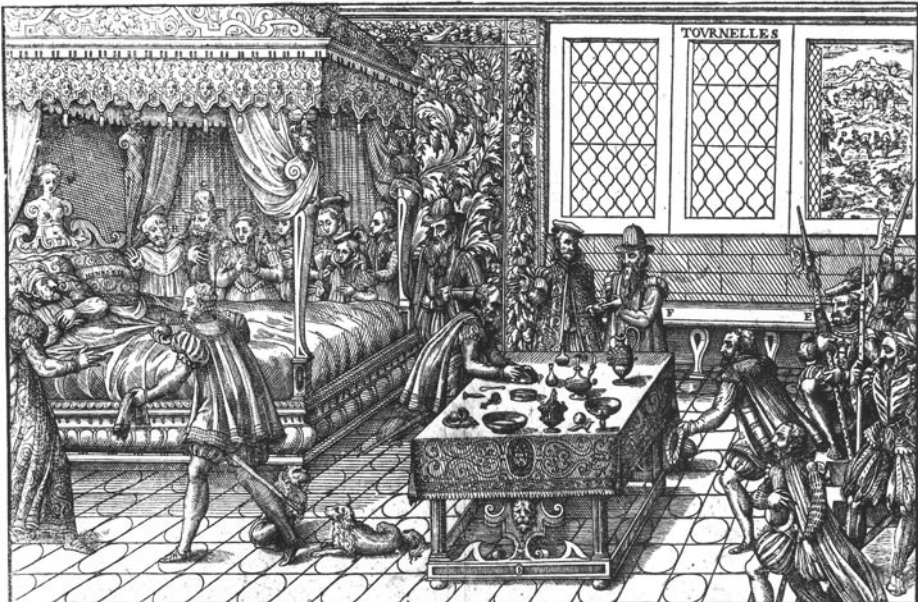


Title pages of two books on Head Injuries by Giacomo Berengario da Carpi (1535 and 1629)

Two trepans made by Ambroise Paré (1575)

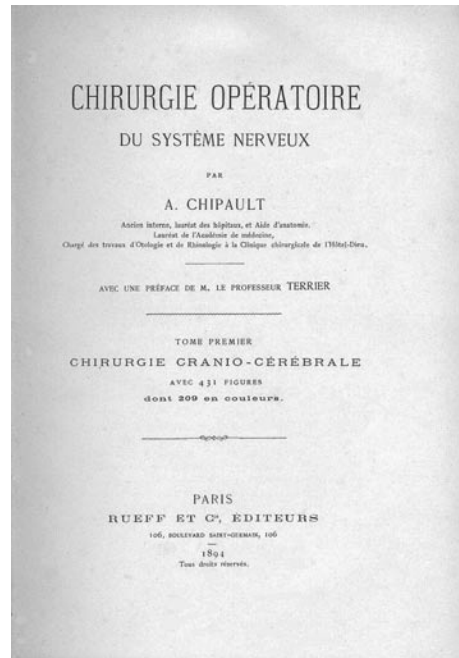


Ambroise Paré (left) and Andreas Vesalius behind the table at the deathbed of Henri II. The French King suffered a penetrating head injury due to a lance blow above his left eye in a medieval-style tournament with the Count of Montgomery on 30th June 1559. Despite the presence of many doctors, including Paré, the court immediately sent for Vesalius from Flanders, who was dispatched to Paris on 2nd July. By 3rd July, when Vesalius was able to examine the wounded King, his condition had deteriorated and Vesalius judged that he could not do anything for him. The King died one week later. Woodcut by Jean Perrisin (c. 1560)



cal symptoms, and he discussed treatment, surgical techniques and the instruments to be used. At that time, he was already an advocate of specialization in the treatment of cranial injuries (4, 5). The famous French surgeon Ambroise Paré (1510-1590), court physician of the French Kings, mentioned five indications for trephining the cranium, and developed various instruments especially for cranial surgery (23). Also, Andreas Vesalius of the Southern Netherlands (1514-1564), personal physician of Emperor Charles V and later of King Philip II of Spain, was well-known throughout Europe for his surgical treatment of head injuries. In 1641, the Dutch general physician, Nicolaes Tulp (1593-1674), immortalized by Rembrandt's depiction of his 'Anatomy Lesson', wrote one of the very first commentaries on elective trepanation for acute epidural haematoma (1, 28, 29). In the late seventeenth and the eighteenth century more detailed reports on individual cases were published by the English surgeon, Percival Pott (1714-1788) and others, which provided a better understanding of the decision process for the surgical treatment of head injuries at that time (25). In Germany, August Richter (1742-1812) and Ernst von Bergmann (1836-1907) were famous for their cranial surgery, especially in cases of head trauma (3, 8).

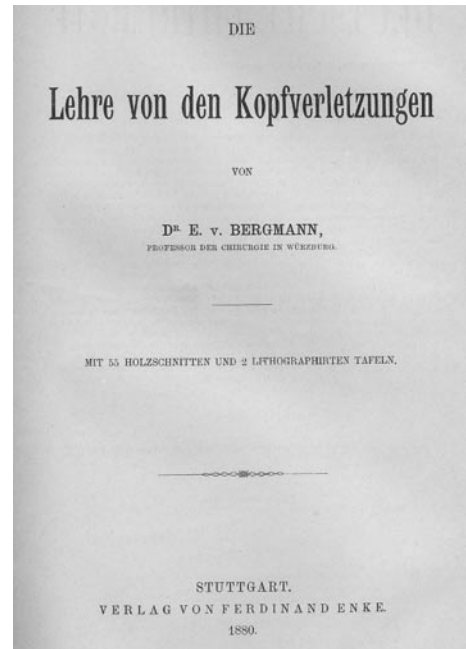
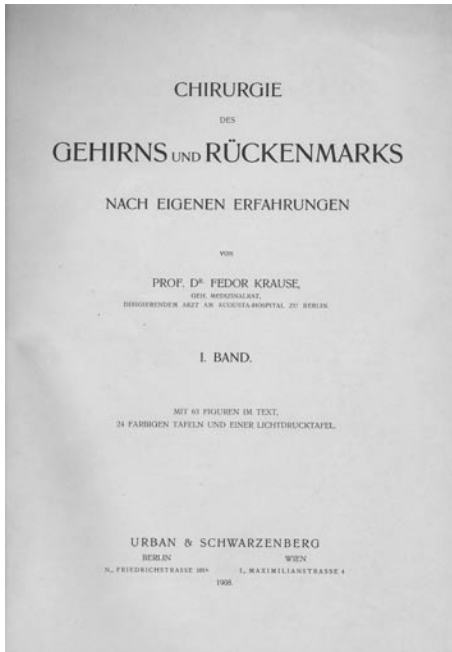
Although trepanations had been performed in Europe for reasons other than head trauma, the operation was not widely accepted as an approach to brain surgery in the middle of the nineteenth century. In 1848, the German surgeon, J.H. Dieffenbach, wrote: 'For many years, I have been more afraid of performing trepanation than of head injuries I have had to treat; in most cases it has proved to be an effective way of killing the patient' (13). It was not long, however, before some important conditions for a safer application of trepanation could be fulfilled. After a first demonstration by the dentist, William Thomas Morton, in Massachusetts General Hospital in Boston in 1846, ether anaesthesia was further developed. And, as a result of Louis Pasteur's (France) and Robert Koch's (Germany) discoveries in the field of bacteriology, the Scottish surgeon Joseph Lord Lister described the principles of antiseptics in 1867 (16, 17). Finally, in 1873, the work of the French surgeon, Paul Broca, and the British neurologists, John Hughlings Jackson and William Gowers, amongst others, proved the theory of localization of body functions in the brain. Conversely, it also became possible to localize pathological conditions in the case of disturbance of these functions. This mapping of the different centres in the brain constituted a justifiable basis for developing brain surgery. From then on, Von Bergmann, who was a military surgeon, focused his activities on brain surgery (9). Also several other surgeons in Europe in the second half of the nineteenth century devoted the major part of their work to neurosur-



Title page of Antoine Chipault's two volumes' work on Neurosurgery (1894)

gery. These included Antoine Chipault and Georges Marion in France, Sir William Macewen in Scotland, Richard von Volkmann and Fedor Krause in Germany, and Jan Anton Guldennarm in The Netherlands (2, 3). These men and others with similar interest prepared the way for neurosurgery as a medical discipline but they were not committed to the surgery of the nervous system on a full-time basis. Victor Horsley (1857-1916) in England was the first to fully embark on this new area of surgery and is, therefore, generally considered to be the first neurosurgeon. During the same period, several handbooks on neurosurgery were written in Europe (10, 15, 18, 19) and many technical improvements were introduced at the end of the nineteenth century. The French surgeon, Thierry de Martel, developed an electric drill for perforating the cranium with a movable locking mechanism and automatic release. The German surgeon, A. Obalinski, started to use a flexible wire saw for craniotomy. This had been developed by the Italian gynaecologist, Leonardo Gigli, for cutting through the symphysis (22). And the German surgeon, Wilhelm Wagner, introduced the skin-bone flap as a standard part of the trepanation procedure (30).

In the early part of the twentieth century, several neurologists and general surgeons in various European countries turned to neurosurgery and devoted themselves full-time to this branch of surgery, whether under the supervision of the neurologists or general surgeons (Lyudvig Puusepp (Russia); Otfried Foerster (Germany); René Leriche (France)). This development was interrupted by the First World War (1914-1918), but intensified thereafter due to the progress in diagnostic options including x-ray (Roentgen [Germany], 1895) (26), lipiodol myelogra-



Fedor Krause's two volumes' work on Neurosurgery (1908-1911) [left]
Title page of Ernst von Bergmann's famous work on Head Injuries (1880) [right]

phy (Sicard [France], 1909) (27), ventriculography (Dandy [USA], 1918) (11, 12), EEG (Berger [Germany], 1924) (6, 7) and carotid angiography (Moniz [Portugal], 1926) (20, 21).

In 1926, the British neurosurgeons founded the Society of British Neurological Surgeons which strongly influenced the development of neurosurgery on a national level in Europe. In 1931, the First International Neurological Congress was held in Bern, where neurosurgeons from Europe and the United States met (see Chapter 1). This was a first tentative rapprochement between neurological scientists from various European countries after the First World War. It was, however, still too early for a coordination of neurosurgical activities in Europe, partly due to the fact that neurosurgery was still controlled by neurologists in several countries. Emancipation of neurosurgery would not take place in most European countries before the Second World War (1940-1945), which again interrupted the process. After the war, it took several years of national consolidation and further development of neurosurgery and a violent struggle in some countries, before the discipline had gained complete independence in most countries in Europe. In West Germany, for example, the Society of Neurosurgery was established in 1950; in The Netherlands in 1952 (2, 3). From then on, several people started to realize the necessity of closer contact between European neurosurgical societies. Neurosurgeons from all parts of Europe met together for the first time during the International Congress of Neurological Sciences and the First International Congress of Neurological Surgery in Brussels in 1957. At this occasion, Marcel David (Paris), Geoffrey Jefferson (Manchester), who was President of the Neurosurgical Congress, Hugo Krayenbühl (Zurich), Kristian Kristiansen (Oslo) and Sixto Obrador (Madrid) established the first links and discussed the idea of closer cooperation between the Neurosurgical Societies in Europe. This led to the First European Congress of Neurosurgery in Zurich in 1959, hosted by Hugo Krayenbühl. Following this successful meeting, it was decided to organize European congresses every four years in the intervals between the International Congresses of the World Federation of Neurosurgical Societies. Every congress was to be organized by two national societies. The Second Congress was held in Rome in 1963 under the chairmanship of Piero Frugoni and was organized by the Società Italiana di Neurochirurgia and the Society of British Neurological Surgeons. The Third European Congress took place in Madrid in 1967, presided over by Sixto Obrador and organized by the Sociedad Luso-Española de Neurocirugía and the Neurosurgical Association of the Societies of the Benelux Countries. The Fourth European Congress was held in Prague in 1971, under the chairmanship of Zdenek Kunčand organized by the Neurosurgical Societies of Czechoslovakia, Hungary and Austria. During this congress the European Association of Neurosurgical Societies was founded in the presence of Dr. K. Sano, President, Dr. W. Luyendijk, Secretary and Dr. K. Kristiansen, Past Secretary of the WFNS. At the following International Congress of the WFNS in Tokyo in 1973, a representation from the European Association was invited as special guest since the Association was to become a member of the WFNS as one of the Continental Associations at the Interim Meeting of the Executive Committee in Oxford, in 1975 (24).

The initial involvement of the European neurosurgical societies in the WFNS

In the light of the above-mentioned post-war events, at the beginning of the 1950s it was still too early for most neurosurgeons, as members of national neurosurgical societies in Europe, to think about an independent international neurosurgical organization. When, in 1955, the first plans were laid for an autonomous interna-

European Member Societies of the World Federation of Neurosurgical Societies

European Association of Neurosurgical Societies
 Central European Neurosurgical Society
 French Speaking Society of Neurosurgery
 Austrian Society of Neurosurgery
 Belgian Society of Neurosurgery
 Bulgarian Society of Neurosurgery
 Society of British Neurological Surgeons
 Croatian Neurosurgical Society
 Czech Neurosurgical Society
 Danish Neurosurgical Society
 French Society of Neurosurgery
 Georgian Neurosurgical Society
 German Society of Neurosurgery
 Hellenic Neurosurgical Society
 Hungarian Neurosurgical Society
 Italian Neurosurgical Society
 Latvian Association of Neurosurgeons
 Lithuanian Neurosurgical Society
 Macedonian Society of Neurosurgeons
 Neurosurgical Association of Moldova
 Netherlands Society of Neurosurgeons
 Polish Society of Neurological Surgeons
 Portuguese Neurosurgical Society
 Romanian Society of Neurosurgery
 Neurosurgical Society of Russia
 Scandinavian Society of Neurosurgeons
 Neurosurgical Association of Serbia and Montenegro
 Slovak Neurosurgical Society
 Slovenian Neurosurgical Society
 Spanish Society of Neurosurgery
 Swiss Society of Neurosurgeons
 Turkish Neurosurgical Society
 Ukrainian Association of Neurosurgeons
 Albanian Society of Neurosurgery
 Armenian Neurosurgical Association

tional neurosurgical congress by a ‘splinter group’ of neurosurgeons, the European neurosurgeons, until lately or still dominated by neurologists and general surgeons in their own countries, were reserved and considered it to be undiplomatic to establish an independent congress. They were, however, prepared to wholeheartedly support such a venture if American neurosurgeons were to initiate it. And so, the World Federation of Neurosurgical Societies was founded on 5th September 1955. The group of founders included, from Europe, Sir Geoffrey Jefferson and B. Hughes (UK), A. Stender (Germany), A.C. de Vet (The Netherlands), E. Busch (Denmark), G.M. Fasiani (Italy), L. Christophe and P. Martin (Belgium), M. David and D. Petit-Dutaillis (France), H. Krayenbühl (Switzerland), P. Almeida-Lima

(Portugal) and E. Tolosa (Spain). Sir Geoffrey Jefferson was elected President of the First International Congress of Neurological Surgery to be held in Brussels in July 1957. M. David was the first Secretary-General and A.C. de Vet the first Treasurer. At this inaugural meeting in September 1955, six official neurosurgical societies from Europe were involved, namely the Society of British Neurological Surgeons, the Deutsche Gesellschaft für Neurochirurgie, the Société de Neurochirurgie de Langue Française, the Nederlandse Vereniging van Neurochirurgen, the Società Italiana di Neuro-chirurgia and the Nordisk Neurokirurgisk Forening. Fifty years later, in 2005, thirty-four European national and regional neurosurgical societies are members of the World Federation of Neurosurgical Societies, with the European Association of Neurosurgical Societies as the Continental Organization.

The role of Europe in congresses of the World Federation of Neurosurgical Societies

The First International Congress of Neurological Surgery, held in Brussels in 1957 under the High Patronage of His Majesty King Baudouin of Belgium and presided over by Sir Geoffrey Jefferson, was a part of the First International Congress of Neurological Sciences. All subsequent congresses in Europe were held separately from the International Neurological Congresses.

The Third International Congress was organized in Copenhagen under the presidency of Dr. E. Busch. This congress was remarkable for its special scientific sessions on acute head and spinal cord injury which led to the establishment of the ad hoc committee on Acute Head Injuries, the precursor of the present Committee on Neurotraumatology.

The third meeting in Europe was the Seventh International Congress of Neurological Surgery in Munich in 1981, with Dr. K.-A. Bushe as President. During this congress the Medal of Honour of the World Federation of Neurosurgical Societies was established, which was bestowed for the first time during the European Congress of Neurosurgery in Brussels two years later.

The Eleventh International Congress of Neurological Surgery was held in Amsterdam in 1997 under the High Patronage of Her Majesty the Queen of The Neth-

European Presidents of the World Federation of Neurosurgical Societies

Sir Geoffrey Jefferson	1955-1957
Eduard Busch	1961-1965
Gösta Norlén	1973-1977
Willem Luyendijk	1981-1985
Lindsay Symon	1989-1993
Madjid Samii	1997-2001
Jacques Brotchi	2005

World Federation of Neurosurgical Societies International Congress Presidents from Europe

Sir Geoffrey Jefferson	Brussels	1957
Eduard Busch	Copenhagen	1963
Karl-August Bushe	Munich	1981
August van Alphen	Amsterdam	1997



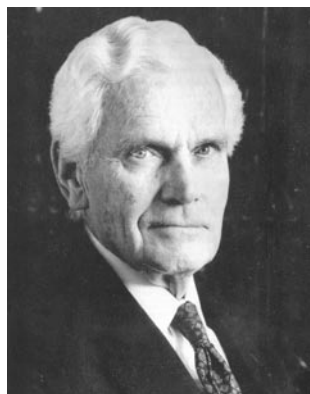
Zdenek Kunč
Recipient, Medal of Honour
1985



Lars Leksell
Recipient, Medal of Honour
1985



Kristian Kristiansen
Recipient, Medal of Honour
1989



Valentine Logue
Recipient, Medal of Honour
1993



Bernard Pertuiset
Recipient, Medal of Honour
1993

erlands. Dr. H.A. van Alphen was the President. It was the first congress which yielded a substantial financial profit to the World Federation.

European Presidents of the World Federation of Neurosurgical Societies

When it had been decided, at the inaugural meeting in September 1955, to organize a separate neurosurgical congress under the umbrella of the International Congress of Neurological Sciences and to move to the foundation of an international neurosurgical organization, a committee was elected in order to prepare both objectives. Sir Geoffrey Jefferson (UK) was chosen as the President. He was a strong personality with a great sense of humour. Under his inspiring leadership the First International Congress of Neurological Surgery was organized in good harmony with the officers of the World Federation of Neurology. Thus the World Federation of Neurosurgical Societies was shaped, so that its official foundation could be effectuated two years later. The second President of the Federation from Europe was Eduard Busch of Copenhagen, Denmark, who served from 1961 until 1965 and who was President of the Third International Congress of Neurological Surgery in Copenhagen in 1965. Dr. Gösta Norlén was the third President from Europe from 1973 until 1979. He was Professor of Neurosurgery in Gothenburg, Sweden and gained great international recognition. He was the first President of the World Federation not to be Congress President at the same time. Dr. Willem Luyendijk, Professor of Neurosurgery at the University of Leiden, The Netherlands, served the World Federation as the fourth European President from 1981 until 1985 following his election during an unruly meeting of the Executive Committee in Munich. The Federation greatly benefited from his dedication; he also served as the Secretary (1969-1981) and as the Historian (1985-1993). In New Delhi in 1989, Dr. Lindsay Symon (UK) was elected as President of the Federation. Under his direction, the WFNS Central Office was established in Geneva 1992 and he can be credited with the revitalization of the Education Committee. The sixth President of the World Federation from Europe was Dr. Madjid Samii (Hannover, Germany), who served from 1997 until 2001. He was the creator of the Foundation of the WFNS for material aid to neurosurgeons and neurosurgical departments in developing countries. During the Interim Meeting of the Executive Committee in Lisbon in 2003, the new office of President-elect was created and Dr. Jacques Brotchi (Belgium) was called to this position. Accordingly, he will be the seventh President of the Federation from Europe and will serve from 2005 until 2009.

Honorary Presidents of the World Federation of Neurosurgical Societies from Europe

In the Constitution of the World Federation of Neurosurgical Societies, adopted at the first Meeting of the Executive Committee in 1957, it was determined that 'Honorary Presidents shall (after the first International Neurosurgical Congress) consist of the Past-Presidents of the Federation, and shall serve for life. They shall be members of the Executive Committee'. Later, other deserving members were also rewarded with this honourable title. The current Bylaws specify that 'for outstanding personal and professional service in the specific activities of the Federation that lead to the successful achievement of the Federation's high purposes the Nominating Committee or members of the Executive Committee may propose neurological surgeons as candidates for election as Honorary Presidents. The Nominating Committee shall establish criteria and guidelines to be utilized in identifying and considering such potential nominees'. At the first election of officers of the World Federation of Neurosurgical Societies in 1955, three European neu-

World Federation of Neurosurgical Societies Honorary Presidents from Europe

Paul Martin	Belgium	1955
Herbert Olivecrona	Sweden	1955
Daniel Petit Dutailis	France	1955
Sir Geoffrey Jefferson	Great Britain	1957
Norman Dott	Scotland	1965
Eduard Busch	Denmark	1965
Alexander Arutiunov	Russia	1969
Marcel David	France	1973
Hugo Krayenbühl	Switzerland	1973
Wilhelm Tönnis	Germany	1973
Gösta Norlén	Sweden	1977
Sixto Obrador	Spain	1977
Henk Verbiest	The Netherlands	1977
Karl-August Bushe	Germany	1981
Guy Lazorthes	France	1981
John Gillingham	Great Britain	1985
Willem Luyendijk	The Netherlands	1985
Jean Brihayé	Belgium	1989
Friedrich Loew	Germany	1989
Alphons Walder	The Netherlands	1989
Lindsay Symon	Great Britain	1993
August van Alphen	The Netherlands	1997
Madjid Samii	Germany	2001

World Federation of Neurosurgical Societies Awardees from Europe
Medal of Honour

G. Guiot	France	1983
A. de Vasconcellos Marques	Portugal	1983
E. Zander	Switzerland	1983
Z. Kunč	Czechoslovakia	1985
L. Leksell	Sweden	1985
K. Kristiansen	Norway	1989
V. Logue	Great Britain	1993
B. Pertuiset	France	1993
K. Schürmann	Germany	1993
G. Yaşargil	Switzerland	1997
A. de Vet	The Netherlands	1997
P. Albert Lasierra	Spain	2001
J. Talairach	France	2003
G. Teasdale	Scotland	2005
J. Haftek	Poland	2005

Dr. William B. Scoville Award

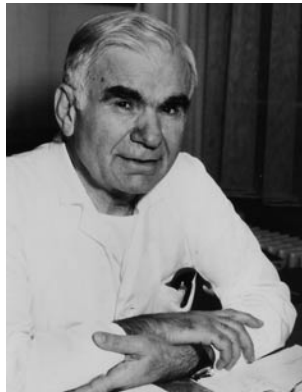
H. Verbiest	The Netherlands	1993
-------------	-----------------	------



Kurt F. Schürmann
Recipient, Medal of Honour
1993



Arnold C. de Vet
Recipient, Medal of Honour
1997



M. Gazi Yaşargil
Recipient, Medal of Honour
1997
Neurosurgeon of the
twentieth century



Pedro Albert Lasiera
Recipient, Medal of Honour
2001



Graham Teasdale
Recipient, Medal of Honour
2005

rosurgeons were appointed Honorary President because of their personal contribution to neurosurgery. These were Drs. Paul Martin (Belgium), Herbert Olivecrona (Sweden) and Daniel Petit-Dutaillis (France). Through the years, many other European contributors to the World Federation have been honoured with this title: Drs. Geoffrey Jefferson, Norman Dott, Eduard Busch, Alexander Arutiunov, Marcel David, Hugo Kraysenbühl, Wilhelm Tönnis, Gösta Norlén, Sixto Obrador, Henk Verbiest, Karl-August Bushe, Guy Lazorthes, John Gillingham, Willem Luyendijk, Jean Brihaye, Fritz Loew, Alphons Walder, Lindsay Symon, August van Alphen and Madjid Samii.

Awards of the World Federation of Neurosurgical Societies given to European neurosurgeons

The World Federation of Neurosurgical Societies has three official awards.

The Medal of Honour is awarded to neurosurgeons in recognition of their outstanding contribution towards the development of neurosurgical sciences worldwide and/or their meritorious activities towards the aims and goals of the Federation. This Medal of Honour has been bestowed on the following neurosurgeons from Europe: Drs. G. Guiot, A. de Vasconcellos Marques, E. Zander, Z. Kunč, L. Leksell, K. Kristiansen, V. Logue, B. Pertuiset, K. Schürmann, G. Yaşargil, A. de Vet, P. Albert Lasierra, J. Talairach, G. Teasdale and J. Haftek.

The Dr. William B. Scoville Award was established to recognize outstanding technical innovations in Neurosurgery. This award was, in accordance to Dr. Scoville's personal wish, bestowed for the first time on Dr. H. Verbiest from The Netherlands in 1993.

The Young Neurosurgeons' Award is an award bestowed on Neurosurgeons aged thirty-five years or younger for the five best papers submitted for presentation at one of the International Congresses of Neurological Surgery. Recipients from Europe include Drs. J.F. Schweg (Switzerland), J. Vajda (Hungary), A. Brawanski (Germany), H. Mayer (Germany), N. Kitchen (UK), M. Tatagiba (Germany), S. Holmin (Sweden) and H. Duffan (France).

Administrative Council members from Europe

In addition to the above-mentioned Presidents and Past-Presidents of the World Federation of Neurosurgical Societies and Presidents of the International Congress of Neurological Surgery from Europe, the following European neurosurgeons have served as members of the Administrative Council:

- First Vice-President of the World Federation: Drs. A.I. Arutyunov (USSR), P. Röttgen (Germany), G. Lazorthes (France), J. Brihaye (Belgium), D. Thomas (UK).
- Secretary of the World Federation: Drs. M. David (France), D.W.C. Northfield (UK), K. Kristiansen (Norway), W. Luyendijk (The Netherlands), H.A. Walder (The Netherlands), M. Choux (France), J. Martin-Rodriguez (Spain).
- Assistant Secretary of the World Federation: Drs. J. Brihaye (Belgium), B. Broager (Denmark), H. A. Walder (The Netherlands), M. Choux (France).
- Treasurer of the World Federation: Drs. A.C. de Vet (The Netherlands), H. Kraysenbühl (Switzerland), E. Zander (Switzerland), H. Wenker (Germany), N. de Tribolet (Switzerland), J. Brotchi (Belgium).
- Assistant Treasurer of the World Federation: Drs. R. Malmos (Denmark), H. Wenker (Germany), N. de Tribolet (Switzerland), M. Samii (Germany), M. Arraez (Spain).

In addition to the above-listed members of the Administrative Council of the World Federation of Neurosurgical Societies from Europe, several hundreds of individuals from Europe have served with distinction and great devotion as an officer or as a member of the Executive Committee and/or of the various other Committees of the World Federation. Many of these committees have been very active over the years, and have been instrumental in the Federation's progress.

During the last twenty years, the office of Historian of the World Federation of Neurosurgical Societies has been held by Drs. Willem Luyendijk (1985-1993), Alphons Walder (1993-2001) and August van Alphen (2001-2005), all from The Netherlands, all of whom have substantially contributed to the realization of this history.

References

1. Alphen, H.A. van: Elective trepanation for acute epidural hematoma by Dr. Nicolaes Tulp (1593-1674). *Neurosurgery* 48: 401-405, 2001
2. Alphen, H.A.M. van: Neurosurgery. In: Frederiks, J.A.M. et al. (eds.): *History of Neurology in The Netherlands*. Amsterdam, Boom: 93-121, 2002
3. Arnold, H., Brock, W., Bushe, K.-A. † et al. (eds. on behalf of the German Society of Neurosurgery): *Neurosurgery in Germany, History. 50 Years of German Society of Neurosurgery*. Lübeck, Hansisches Verlagskontor 2002, 244 pp
4. Berengario da Carpi, G.: *Tractatus de perutilis et completes de fractura cranii*. Venice, Joan Ant. de Nicolinis de Sabio, 1535, ed. 2
5. Berengario da Carpi, G.: *De fractura cranii*. Leiden, Joannis Maire, 1629, editio nova
6. Berger, H.: Über das Elektroencephalogramm des Menschen. *Arch. Psychiat. Nervenkr.* 7: 529-570, 1929
7. Berger, H.: Das Elektroencephalogramm des Menschen. *Nova Acta Leopoldina* 6: 1-139, 1938
8. Bergmann, E. von: Die Lehre von den Kopfverletzungen. In: Billroth und Luecke (eds.): *Deutsche Chirurgie, Lieferung 30*. Stuttgart, Ferdinand Enke 1880, 560 pp
9. Bergmann, E. von: *Die Chirurgische Behandlung von Hirnkrankheiten*. Berlin, August Hirschwald, Zweite Aufl., 1889, 189 pp
10. Chipault, A.: *Chirurgie Opératoire du Système Nerveux*. 2 Vols. Paris, Rueff et Cie, 1894, 744+800 pp
11. Dandy, W.E.: Ventriculography following injection of air into the cerebral ventricles. *Ann. Surg.* 68: 5-11, 1918
12. Dandy, W.E.: Röntgenography of the brain after the injection of air into the spinal canal. *Ann. Surg.* 70: 397-403, 1919
13. Dieffenbach, J.E.: *Die operative Chirurgie, Teil 2*. Leipzig, F.A. Brockhaus, 1848
14. Hippocrates: *De capitis vulneribus (On injuries of the head)*. In: Adams, F.: *The Genuine Works of Hippocrates*. London, Sydenham Society, 1849: 421-466
15. Krause, F.: *Chirurgie des Gehirns und Rückenmarks nach eigenen Erfahrungen*. 2 Vols. Berlin-Wien, Urban & Schwarzenberg, 1908, 1911, XII+828+XXXVI pp
16. Lister, J.: On the antiseptic principle in the practice of surgery. *Lancet* 2: 353-356, 668-669, 1867

17. Lister, J.: On the effect of the antiseptic system of treatment upon the salubrity of a surgical hospital. *Lancet* 1: 4-6, 40-42, 1870
18. Macewen, W.: *Pyogenic Infectious Diseases of the Brain and Spinal cord: Meningitis, Abscess of Brain, Infective Sinus Thrombosis*. Glasgow, James Maclehose and Sons, 1893, 354 pp
19. Marion, G.: *Chirurgie de Système Nerveux; Crane et Encéphale - Rachis et Moelle - Nerfs*. Paris, G. Steinheil, 1905, 531 pp
20. Moniz, E.: *Diagnostic des tumeurs cérébrales et épreuve de l'encephalographie artérielle*. Paris, Masson et Cie, 1931, 512 pp
21. Moniz, E.: *Die cerebrale Arteriographie und Phlebographie*. In: Bumke, O., Foerster, O.: *Handbuch der Neurologie II*. Berlin, Julius Springer, 1940, 413 pp
22. Obalinski, A.: *Zur Technik der Schädeltrepanation*. *Zbl. Chir.* 24: 857-859, 1897
23. Paré, M.A.: *Les oeuvres de M. Ambroise Paré, conseiller et premier chirurgien du roy*. Paris, Gabriel Buon, 1575
24. Pia, H.W.: *Chronicle of the European Association of Neurosurgical Societies*. Wien-New York, Springer-Verlag, 1983, 97 pp
25. Pott, P.: *Surgical Works: A New Edition, Vol. 1*. London, Wood and Innes, 1808
26. Röntgen, W.C.: *Ueber eine neue Art von Strahlen*. *Sitzungsber. Phys. Med. Ges. Würzburg* 137: 132-141, 1895
27. Sicard, J.A., Forestier, J.: *Méthode radiographique d'exploration de la cavité épidurale par le Lipiodol*. *Rev. Neurol.* 37: 1264-1266, 1921
28. Tulp, N.: *Observationum Medicarum*. Amsterdam, Ludovicus Elzevirius, 1641: 9-10
29. Tulp, N.: *Observationes Medicae*. Amsterdam, Ludovicus Elzevirius, 1652 editio nova: 9-10
30. Wagner, W.: *Die temporäre Resektion des Schädeldaches an Stelle der Trepanation. Ein Vorschlag*. *Zbl. Chir.* 16: 833-838, 1889

4.2 NORTH AMERICA AND THE WORLD FEDERATION OF NEUROSURGICAL SOCIETIES

EDWARD R. LAWS

The initial involvement of the North American neurosurgical societies.

At the time the World Federation of Neurosurgical Societies was founded in 1955, North America had more neurosurgeons than any other country in the world and it had five neurosurgical societies that helped constitute the nucleus of the World Federation of Neurosurgical Societies. These societies were The American Association of Neurological Surgery (founded as the Harvey Cushing Society), The American Academy of Neurological Surgery, The Canadian Neurosurgical Society, The Society of Neurological Surgeons (the first neurosurgical society, still referred to as 'The Senior Society') and the 'newly founded at the time' Congress of Neurological Surgeons. In addition, at that time North America had become a leader in the technical and educational aspects of the specialty of neurosurgery. The American Board of Neurological Surgery had been established and was functioning well. There were numerous formal training programmes in neurosurgery with established curricula, and significant training opportunities were available to young neurosurgeons from all over the world.

The origins of the World Federation of Neurosurgical Societies emerging as a separate organization from the previously existing international neurosciences federation have been well covered in Chapter 1. The founding of the World Federation of Neurosurgical Societies was related in no small part to the untiring efforts of a variety of neurosurgical leaders from North America. These included Paul Bucy, A. Earl Walker, William B. Scoville, Henrik Svien, Arthur Elvidge and Jean Sirois. These representatives from the United States and Canada were able to speak on behalf of the individual neurosurgical societies, and they played a major role in the founding and subsequent activities of the World Federation of Neurosurgical Societies.

The role of North America in World Congresses of the World Federation of Neurosurgical Societies

The inaugural meeting of the World Federation of Neurosurgical Societies took place in Brussels, Belgium in 1957 with A. Earl Walker as Vice-President and William Scoville as Assistant Secretary of the Federation. A beautiful gavel, carefully crafted from special types of North American wood, was presented to the World Federation of Neurosurgical Societies; this symbol had been a project of the Ladies Auxiliary of the Congress of Neurological Surgeons. In addition, the Congress of Neurological Surgeons presented a silver plate to the meeting.

The First International Congress hosted by North America was the second meeting. It was held in Washington, DC in 1961 with the following office-bearers:

President
Vice-President

Paul Bucy
Harry Botterell of Canada

Secretary	Bronson Ray
Treasurer	Barnes Woodhall
Assistant Secretary	William Scoville
Assistant Treasurer	Wallace Hamby
Editor of the Congress Proceedings	David Reeves

A special message was delivered to the meeting on behalf of President John F. Kennedy, a most memorable event.

Each delegate to this Congress received a medal bearing a likeness of Harvey Cushing.

World Federation of Neurosurgical Societies International Congress Presidents from North America

Paul Bucy	Washington, DC	1961
A. Earl Walker	New York City	1969
Alan Hudson	Toronto	1985
Mauro Loyo-Varela	Acapulco	1993
Roberto Heros	Boston	2009

The Fourth International Congress was held in New York City in 1969 with Dr. A. Earl Walker as President, Dr. Collin MacCarty as Secretary, Dr. Lawrence Pool as Treasurer.

Robert King was the Assistant Treasurer, Charles Drake the Editor of the Congress Proceedings and William Scoville Editor of the Federation News. This Congress was conceived and indeed proceeded as a joint meeting with the World Federation of Neurology and many other successful combined activities.

The Eighth International Congress was held in Toronto, Canada in 1985 with Allen B. Hudson as the President. It was notable for a wonderful academic procession as a part of a splendid opening ceremony.

The Tenth International Congress was held in Acapulco, Mexico in 1993 with Dr. Mauro Loyo-Varela as President. Mexican neurosurgeons had become full members of the American Association of Neurological Surgeons and had aligned with this organization as their continental representative, but subsequent to this Congress, Mexico decided to align itself with the Latin American Federation of Neurosurgical Societies (FLANC) as its continental organization.

At the time of writing this history of the World Federation of Neurosurgical Societies, plans are underway for the Fourteenth World Congress to be held in Boston, Massachusetts in 2009. The proposed Congress President is Dr. Roberto Heros.

North American Presidents of the World Federation of Neurosurgical Societies

The first actual President of the World Federation of Neurosurgical Societies was Paul Bucy of Chicago who served from 1957 through 1961 and who was instrumental in the initial development of the organization.

A. Earl Walker, Professor of Neurosurgery at the Johns Hopkins School of Medicine, was the second President from North America (1965 until 1969). He was one of the original founders of the World Federation of Neurosurgical Societies.

Charles Drake of London, Ontario served the Federation as President from 1977 through 1981 and was quite active within the organization, serving in many capacities. The International Congress in Munich was held under his presidency.

North American Presidents of the World Federation of Neurosurgical Societies

Paul Bucy	1957-1961
A. Earl Walker	1965-1969
Charles Drake	1977-1981
W. Kemp Clark	1985-1989
Edward Laws	2001-2005

The fourth North American President of the World Federation was Dr. Kemp Clark. He was President from 1985 until 1989 and officiated during the World Congress that took place in New Delhi, India.

Edward Laws became President of the World Federation of Neurosurgical Societies in 2001 and served until 2005. Besides many other important activities, he has been very much involved in the work of many of the WFNS Committees, their various projects and their progress. Prior to becoming President, Edward Laws served as Secretary and before that as Assistant Secretary of the WFNS and has, therefore, contributed many years of time and energy to Federation affairs.

Honorary Presidents of the World Federation of Neurosurgical Societies from North America

The criteria for Honorary Presidents have changed over the years; however, a significant number of individuals from North America who made a variety of contributions to the World Federation has been honoured with this title.

World Federation of Neurosurgical Societies Honorary Presidents from North America

Percival Bailey	William Sweet
Wilder Penfield	Raymond Thomson
Paul Bucy	Kemp Clark
A. Earl Walker	William Mosberg
William B. Scoville	George Albin
Charles Drake	Sean Mullan
Frank Mayfield	Mauro Loyo-Varela
Alan Hudson	Russell Patterson
Henry Schwartz	

The initial North American Honorary Presidents were Percival Bailey of Chicago and Wilder Penfield of Montreal. Subsequently, Honorary Presidencies were awarded to Drs. Paul Bucy, A. Earl Walker, William B. Scoville, Charles Drake, Frank Mayfield, a distinguished surgeon from Cincinnati, Ohio, Allan Hudson,

Henry G. Schwartz of Saint Louis, Missouri, William Sweet of Boston, Raymond K. Thompson of Baltimore, Kemp Clark, William Mosberg of Baltimore, Sean Mullan who served with distinction as Secretary and had many committee positions, George Ablin of California who served as developer and Chair of the Constitution and Bylaws Committee and also as Parliamentarian, Mauro Loyo-Varela of Mexico and Russell Patterson of New York City who also served as Parliamentarian and in many important committee positions.

Awards given by the World Federation of Neurosurgical Societies to North American Neurosurgeons

The Medal of Honour of the World Federation of Neurosurgical Societies is the highest form of recognition awarded by the Federation. Recipients from North America included Drs. Bronson Ray of New York City, Lawrence Pool of New York City, Manuel M. Velasco-Suarez of Mexico, Thoralf Sundt of Rochester, Minnesota, Jules Hardy of Montreal, Albert Rhoton of Gainesville, Florida, Ladislau Steiner of Charlottesville, Virginia and John Jane of Charlottesville, Virginia.

North American Awardees of the World Federation of Neurosurgical Societies

Medal of Honour		Scoville Award	
Bronson Ray	1983	Patrick Kelly	1997
Lawrence Pool	1985	Michael Appuzo	2001
Manuel Velasco-Suarez	1985		
Thoralf Sundt	1993		
Jules Hardy	1997		
Albert Rhoton	2001		
Ladislau Steiner	2003		
John Jane, Sr.	2005		

It should be noted that among the recipients of the First Young Neurosurgeons' Awards in 1981 were Dr. Warren Selman of Cleveland, Ohio and Dr. Kim Burchiel currently of Portland, Oregon. Other North American winners of this award have been Drs. Robert Dempsey, Abhijit Guha, Douglas Kondziolka, John Hurlbert, Michael Tymianski, Kamal Thapar, Sam Hassenbusch, B.M. Pereira, Peter LeRoux, David Frim, Michael Lawton and Decpa Soni.

The William B. Scoville Award was established by Dr. Scoville's family in memory of this great neurosurgeon. It is designed to recognize most important technical innovations in Neurosurgery. There have been two recipients from North America: Drs. Patrick Kelly and Michael Apuzo.

Administrative Council Members from North America

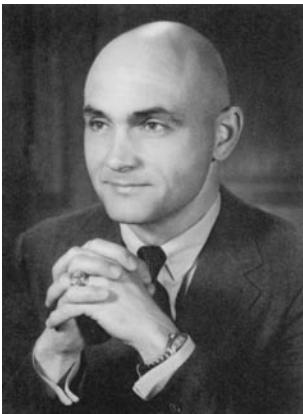
Sean Mullan of Chicago served as Assistant Secretary and Secretary. Edward Laws of Rochester, Minnesota and later of Charlottesville, Virginia, served as Assistant Secretary, Secretary, and First Vice-President. Richard Perrin of Toronto served as Assistant Secretary and Second Vice-President. Other Second Vice-Presidents from North America have included Arthur Ward of Seattle, Tom Morley of Toronto, B.



J. Lawrence Pool
Recipient, Medal of Honour
1985



Manuel Velasco-Suarez
Recipient, Medal of Honour
1985



Thoralf M. Sundt †
Recipient, Medal of Honour
1993



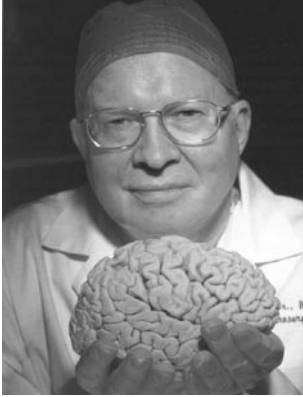
Jules Hardy
Recipient, Medal of Honour
1997

Cone Pevehouse of San Francisco, Harold Hoffman of Toronto and Peter Jannetta of Pittsburgh.

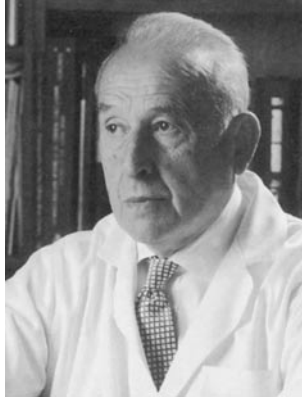
Committee Leadership from North America

The various committees of the World Federation of Neurosurgical Societies have been its life blood, responsible for its continued progress and influence. Many individuals from North America have served with distinction on the following committees:

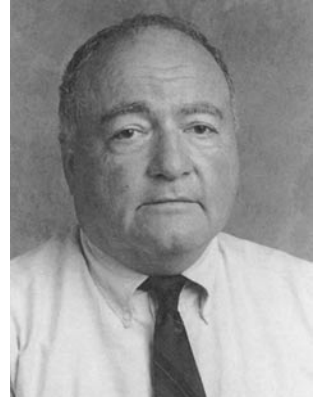
1. Constitution and Bylaws Committee. The original Constitution and Bylaws Committee was set up under the presidency of Dr. P. Bucy and included Drs. E. Walker, J. Sirois and H. Schwartz. Subsequently, Drs. C. MacCarty, M. Velasco-Suarez of Mexico, P. Bucy, D. Parkinson of Canada and Ch. Drake



Albert L. Rhoton
Recipient, Medal of Honour
2001



Ladislau Steiner
Recipient, Medal of Honour
2003



John A. Jane
Recipient, Medal of Honour
2005

helped develop the Constitution and Bylaws. Significant progress was made under the leadership of Dr. George Ablin and Dr. Russell Patterson, and currently Dr. Peter Black has been instrumental in continuing to ensure the Constitution and Bylaws reflect the purposes of the World Federation.

2. Liaison and Public Relations Committee. This committee was originally designed to maintain relations with the other world efforts in neuroscience including the World Federation of Neurology and liaisons with the World Health Organization and the United Nations. The members of the Liaison and Public Relations Committee included Drs. A. Earl Walker, Paul Bucy, Harry Botterell, Bronson Ray and Collin McCarty. Dr. Charles Drake served with distinction on this committee as did Drs. George Ablin, Donald Dohn of Cleveland, Kemp Clark, Phanor Perot and Sean Mullan, and more recently Dr. Manuel Dujovny of Detroit.
3. The Nominating Committee. The Nominating Committee has gone through an evolutionary process and now has a formal structure, but at the beginning it was led by Drs. A. Earl Walker, Lyle French of Minneapolis, Paul Bucy, Richard Schneider of Ann Arbor, Michigan, and Eugene Stern of Los Angeles. Under the current structure, representatives to the nominating committee from North America have included Drs. Phanor Perot, Richard Perrin, James Ausman, Russell Patterson, Kenneth Smith of Saint Louis, Missouri, Albert Rhoton, Ernesto Duhart of Mexico and James Rutka of Toronto. The current Nominating Committee Chair and representative from North America is Robert Spetzler of Phoenix, Arizona.
4. The Education Committee. The Education Committee was founded by Dr. William Mosberg of Baltimore, Maryland, and underwent a major transformation under the leadership of Dr. James Ausman. He greatly expanded the programmes and activities of this committee, which is currently designed to provide educational courses to neurosurgeons in developing areas around the world. In addition, under Dr. Ausman's leadership, guidelines were established for the development of neurosurgical departments and for neurosurgical resident education and graduate training programmes.

5. The Membership Committee. As the World Federation of Neurosurgical Societies was formulated, the initial members of the Membership committee were Drs. Henry Schwartz of Saint Louis and Jean Sirois of Canada. Subsequently, the Administrative Council has become the Membership Committee.
6. The Paediatric Neurosurgery Committee. There are a number of committees that were originally constituted to represent special areas within neurosurgery. The Paediatric Committee has enjoyed active participation from North American Paediatric Neurosurgeons such as Harold Hoffman of Toronto and Anthony Raimondi of Chicago.
7. The Cerebrovascular Committee. This committee has been extraordinarily active over the years, formulated under the leadership of Drs. Charles Drake and incorporating the assistance of Drs. Thoralf Sundt, Robert Spetzler and Roberto Heros. It was responsible for developing a World Federation of Neurosurgical Societies Classification of Subarachnoid Haemorrhage, which is widely used.
8. Committee on Neurotraumatology. The initial members of the Committee on Neurotraumatology included Drs. K.O.C. Elliot of Canada, E.S. Gurdjian of Detroit. They were later joined by Ayub Ommaya of Washington DC, Robert McLaurin of Cincinnati, Joseph Evans of Kensington, and Dr. George Dohrmann of Chicago, who still remains active in this committee.
9. Neuro-oncology Committee. The Neuro-oncology Committee has been quite active over the years. It has included a number of members from North America and is currently being vigorously and most effectively led by Dr. James Rutka of Toronto.
10. Peripheral Nerve Surgery Committee. The Peripheral Nerve Committee has gradually been gaining scope and influence and has benefited greatly from leadership provided by Dr. Allan Hudson of Toronto.
11. Materials, Drugs and Devices Committee. The need to monitor neurosurgical materials, drugs and devices was evident early on in the development of the Federation. Dr. Charles Ray, currently from North Carolina, and Dr. Manuel Dujovny have provided excellent leadership in these efforts.
12. World Federation of Neurosurgical Societies Committee on Functional Rehabilitation. This committee has benefited from the leadership of Dr. S. Haines, currently of Minneapolis.
13. World Federation of Neurosurgical Societies website. Initial development of the World Federation of Neurosurgical Societies Web (www.wfns.org) was under the leadership of Dr. Patrick Kelly of New York City. The first webmaster was one of the members of Dr. Kelly's Department at New York University, Dr. Alan Mogilner.
14. Committee for the Award to Young Neurosurgeons. Dr. Albert Rhoton developed and led this effective committee for many years.
15. Scoville Awards Committee. Dr. Russel Patterson has served with distinction as Chair of this committee.
16. Young Neurosurgeons Forum. Dr. Edward Laws was instrumental in developing this important initiative.

Delegates to the Executive Committee of the World Federation of Neurosurgical Societies from North America

Delegates from North America to the Executive Committee sessions held between 1985 and 2004 have included:

Drs. B.C. Pevehouse, J.F.R. Fleming, A. Godon, B. K. Weir, A. R. Tyrer, M. Velasco-

Suarez, F. Rueda-Franco, M. Loyo-Varela, R. Patterson, P. Perot, W. Mosberg, G. Albin, A. Rhoton, J. Tew, R.K. Thompson, E. Laws, R. Perrin, R. Jouett, W.K. Clark, S. Chou, H. Hoffman, A. Olivier, R. Spetzler, D. Kline, R. Ratcheson, W. Buchheit, J. Ausman, D. Piepgras, K. Smith, M. Apuzzo, E. Ciric, R. Hardy, E. Tarlov, R. Grossman, P. Black.

Current status of North America within the World Federation of Neurosurgical Societies

North America, along with Japan, constitutes the area with the largest number of neurosurgeons represented within the World Federation of Neurosurgical Societies. In the case of North America, approximately four thousand five hundred neurosurgeons are represented and there are one hundred and two active neurosurgical training programmes in the United States and Canada. The current constituent societies from North America consist of The American Association of Neurological Surgeons, The Congress of Neurological Surgeons, The American Academy of Neurological Surgery, The Society of Neurological Surgeons, The Neurosurgical Society of America and The Canadian Neurosurgical Society. These are all robust organizations dedicated in their support of the World Federation of Neurosurgical Societies, its goals and its objectives.

The future involvement of North America in the World Federation of Neurosurgical Societies

Everyone in North America is looking forward to the forthcoming International Congress of Neurological Surgery sponsored by the World Federation of Neurosurgical Societies to be held in Boston, Massachusetts, in 2009.

The United States and Canada together serve as a significant resource for neurosurgeons all over the world in providing educational programmes, individual neurosurgical educators and considerable material aid for neurosurgeons in developing areas. We hope that these efforts will expand steadily in the future.